

# BIRTH SATISFACTION DURING THE EARLY MONTHS OF THE COVID-19 PANDEMIC IN THE UNITED STATES

Elizabeth Mollard, PhD, CNM, WHNP, IBCLC, and Kevin Kupzyk, PhD



## Abstract

**Purpose:** The purpose of this study was to describe birth satisfaction in women who gave birth in U.S. hospitals during the earliest months of the COVID-19 pandemic (March–July 2020).

**Study Design and Methods:** A cross-sectional survey of 747 postpartum women who gave birth in the United States during the early COVID-19 pandemic was conducted. Participants in the United States were recruited via social media. They completed a questionnaire that included demographic, health, and obstetric experience questions, and the Birth Satisfaction Scale-Revised. Descriptive statistics, *t*-tests, analysis of variance (ANOVA) models, and nonparametric correlations were performed.

**Results:** Higher birth satisfaction scores were associated with higher income, marriage, white race, vaginal birth, having a birth partner present, and sufficient support during birth. Factors negatively associated with birth satisfaction were separation from infant, unplanned cesarean birth, neonatal intensive care unit admission, hypertension, preeclampsia, hemorrhage, depression, and anxiety.

**Clinical Implications:** Presence of birth partners, sufficient birth support, and minimizing separation of mother and infant improve birth satisfaction. Obstetric complications, including unplanned cesarean birth, negatively affect birth satisfaction. There are racial disparities in birth satisfaction. It is critical to develop further interventions to end racism in maternal health care.

**Key words:** Birth; COVID-19; Maternal health; Patient satisfaction; Postpartum period.

## Background

The COVID-19 pandemic has affected women's birth experiences (Breman et al., 2021; Burgess et al., 2021). Women giving birth during the pandemic have shown a high likelihood of experiencing a traumatic birth, perinatal mental health disruption, and poor maternal–infant bonding (Hessami et al., 2020; Mayopoulos et al., 2021). During the earliest months of the pandemic, uncertainty about the COVID-19 virus led to severe and restrictive maternity care changes throughout the United States (Breman et al.; Burgess et al.; Davis-Floyd et al., 2020; Peña et al., 2020). To prioritize infection control, hospitals reduced or excluded support persons, required universal masking and COVID testing, excluded doulas as members of the health care team, separated infants from mothers with symptoms, modified immediate skin-to-skin contact and early initiation of breastfeeding practices, and encouraged early discharge (Bianco et al., 2020; Bornstein et al., 2020; Breman et al.; Del Rio et al., 2021; Peña et al.). Nurse-to-patient ratios were affected by the rise of COVID-19 patients throughout the hospital, and many nurses were forced to work longer hours and mandatory overtime (Grimm, 2021). Pain control options were affected by anesthesia provider availability and nitrous oxide discontinuation in some settings (Podovei et al., 2020).

Dramatic changes to the maternity care environment affected women's abilities to make autonomous decisions about their birth and altered their perceptions of safety (Mollard & Wittmaack, 2021). By midsummer of 2020, clinicians, researchers, and other maternal health advocates demanded that, despite necessary restrictions called for by the pandemic, women's human rights must still be prioritized through respectful maternity care practices (Reingold et al., 2020).

### Birth Satisfaction

A satisfying birth experience begins a positive trajectory for the mother–infant dyad. Women with satisfying birth experiences feel empowered by childbirth, report higher self-esteem, and are more likely to confidently engage in health-promoting behaviors like breastfeeding (Hinich, 2017). A negative birth experience is associated with impaired maternal–infant bonding and adverse psychological effects, including depression and posttraumatic stress disorder (Bell & Andersson, 2016; Chabbert et al., 2021). A woman's experience with birth occurring in the hospital affects her long-term perceptions of and future interactions with the health care system.

A woman's satisfaction with her birth is multifaceted and personal (Martin & Fleming, 2011). Birth satisfaction is affected by previous life experiences, culture, education, and temperament. Birth satisfaction is affected by stress levels and preparation for childbirth (Hinich, 2017; Miron-Shatz & Konheim-Kalkstein, 2020). Birth dissatisfaction has been associated with obstetric interventions and complications during birth including emergency cesarean birth, postpartum hemorrhage, instrumental birth, and poor infant status (Falk et al., 2019).



## Little is known about birth satisfaction in women who gave birth in U.S. hospitals during the early months of the COVID-19 pandemic.

Little is known about the satisfaction of women who gave birth during the COVID-19 pandemic. One study conducted in Italy showed that birth satisfaction was unchanged during the COVID pandemic compared with a prepandemic cohort, although there was an increase in obstetric interventions (Inversetti et al., 2021). Variables that were dissatisfiers both in and outside of a pandemic included epidurals, prolonged active labor, oxytocin, and cesarean birth (Inversetti et al.). Breman et al. (2021) reported patient dissatisfaction with restrictive hospital policies, changes in care, and miscommunication from health care providers to childbearing women among women giving birth in the United States early in the pandemic (March to June 2020). For women giving birth during the peak of the pandemic in New York City, COVID-19 positivity, and being a Black or Latina women were associated with lower birth satisfaction (Janevic et al., 2021). Our objective was to describe birth satisfaction in women who gave birth in U.S. hospitals during the earliest months of the COVID-19 pandemic (March–July 2020).

### Study Design and Methods

We conducted a cross-sectional survey of postpartum women who gave birth in the United States during the first 5 months of the COVID-19 pandemic.

#### Sample

Inclusion criteria were women 18 years of age or older, who gave birth in a U.S. hospital after March 1, 2020, who could read and write in English.

#### Recruitment

To recruit participants, we created a Facebook page for the study. From this page, we created advertising posts (Figures 1-2 Supplemental Digital Content at <http://links.lww.com/MCN/A73>) and paid \$540 to have the posts “boosted” on

Facebook and Instagram. We selected our audience to include; Location: Living in the United States, Age: 18–43, Gender: Female; People Who Match Interests: Parents: New Parents. Posts also were shared by groups and individuals on social media.

### Procedures

Before beginning the study, minimum sample size was determined to be 385 participants. This number was calcu-

**TABLE 1.** DEMOGRAPHICS AND DESCRIPTIVE DATA OF PARTICIPANTS ( $N = 747$ )

	<i>N</i>	Percent
<b>Marital Status</b>		
Married	612	81.9
Divorced or separated	5	0.6
Single (never married)	34	4.6
Widowed	1	0.1
Committed relationship	95	12.7
<b>Race/Ethnicity</b>		
White, non-Hispanic	641	85.8
Black, non-Hispanic	11	1.5
Asian	19	2.5
Hispanic	63	8.4
Other	13	1.7
<b>Education</b>		
9–11th grade	8	1.1
High school graduate/GED	81	10.8
Vocational/Technical school	25	3.3
Associate degree/some college	141	18.9
Bachelor's degree	251	33.6
Advanced degree	241	32.3
<b>Employment Status</b>		
Full-time	370	49.5
Part-time	68	9.1
Not employed	309	41.4
<b>Household Income</b>		
Less than \$30,000	89	11.9
\$30,001–\$50,000	107	14.3
\$50,001–\$70,000	122	16.3
\$70,001–\$100,000	176	23.6
Greater than \$100,000	253	33.9
<b>Type of Birth</b>		
Vaginal	523	70
Planned cesarean	96	12.9
Unplanned cesarean	128	17.1
	<b>Mean</b>	<b>SD</b>
Age	30	4.9
<b>Birth Satisfaction Scale Total</b>		
BSSR—Labor-related Stress	9.9	3.4
BSSR—Women's Personal Attributes	4.5	2.2
BSSR—Quality of Care	13.5	2.5

lated using the Qualtrics survey research sample size calculator (Qualtrics, Provo, UT) using number of women who gave birth in the United States in the most recent year with published data (Martin et al., 2019). Sample size was calculated with a confidence level of 95% and a 5% margin of error.

Institutional Review Board approval was obtained and participants were recruited to complete the questionnaire hosted on the secure REDCap platform. After informed consent was obtained, participants reported demographic and health information (e.g., diabetes, hypertension), questions about obstetric history (e.g., birth method, obstetric complications like shoulder dystocia), if they had a support person present, whether they felt they had enough birth support, if they were separated from their infant, information about their infant such as if the infant was admitted to the neonatal intensive care unit (NICU), and the 10-item Birth Satisfaction Scale-Revised.

### Birth Satisfaction Scale-Revised

The Birth Satisfaction Scale-Revised (BSS-R) is the globally recommended standardized measure to quantify maternal satisfaction with labor and birth in postpartum women (Barbosa-Leiker et al., 2015; Martin & Martin, 2014; Nijagal et al., 2018). The BSS-R is a valid and reliable 10-item self-report instrument that uses a 0–4 Likert scale on each question (Martin & Martin). The BSS-R was developed based on the original 30-item Birth Satisfaction Scale and has since been validated in the United States (Barbosa-Leiker et al.; Martin & Fleming, 2011). Overall scores range from 0 to 40, with a higher score indicating more satisfaction.

The BSS-R focuses on overall birth satisfaction and has three subscales including stress experienced during labor (hereinafter referred to as labor-related stress), women's personal attributes, and the quality-of-care received (Martin et al., 2018; Martin et al., 2020). Increased use of medical interventions, insufficient medical care, pain, overall distress, and infant health can impact labor-related stress (Martin & Fleming, 2011). Women's personal attributes include expectations about birth, sense of control, coping, and ability to prepare for childbirth (Martin & Fleming). The quality-of-care provision includes satisfaction with the birth environment, support, and relationships with health care providers (Martin & Fleming). Higher scores on the subscales associate with more satisfying experiences in quality-of-care (range 0–16), women's personal attributes (range 0–8), and labor-related stress (range 0–16; Martin et al., 2018).

### Analysis

Before analysis, total scores and subscale scores were calculated, and descriptive statistics were determined. Cronbach's alpha was assessed for total scores and each subscale to examine the internal consistency reliability of the BSS-R. Differences in BSS-R scores across categories of key demographic and birth-related variables were assessed using *t*-tests and analysis of variance (ANOVA) models. Relationships between BSS-R outcomes and con-



tinuous and ordinal variables, such as income or highest level of education, were examined using nonparametric correlations. All analyses were carried out using IBM SPSS version 25, and a .05 alpha level was used to determine statistical significance.

## Results

Between May and July 2020, the paid advertisements reached 73,696 people and 6,497 people engaged with (read) the ads. Of those, 1,622 women clicked on the REDCap survey link and 885 postpartum women aged 18–43 who gave birth between March 1 and July 9, 2020 participated in the study. This number far exceeded the required minimum sample size due to success of the paid ads. There was at least one participant from each U.S. state and there were no oversampled regions. The BSS-R was completed in entirety by 747 participants (84% of

participants). See Table 1 for demographic information. Of the 747 women included in this analysis, 21 (2.8%) did not have a birth partner present at birth, 132 (17.7%) were separated from their baby after birth, and 116 (15.5%) of the babies had NICU stays after birth.

Cronbach's alpha in this sample was .804 for overall BSS-R scores, .731 for the quality-of-care subscale, .668 for women's personal attributes, and .678 for labor-related stress. The average BSS-R score was 27.78 (SD = 6.5). The average BSS-R quality-of-care was 13.48 (SD = 2.49), average women's personal attributes was 4.45 (SD = 2.19), and average labor-related stress was 9.85 (SD = 3.40). Higher income was associated with higher BSS-R ( $r_s = .137, p < .01$ ), quality-of-care ( $r_s = .108, p < .01$ ), labor-related stress ( $r_s = .077, p < .05$ ), and women's personal attributes ( $r_s = .127, p < .01$ ). Table 2 shows how employment, marital status, and race were associated with birth satisfaction in our study.

Table 3 and Figures 3-6 (Supplemental Digital Content at <http://links.lww.com/MCN/A73>) show how birth method was related to birth satisfaction.

When using a *t*-test to analyze for differences in birth satisfaction related to several medical conditions, there was no significant difference for women with diabetes, asthma, shoulder dystocia, other conditions as written in, or COVID-19. Table 4 (Supplemental Digital Content at <http://links.lww.com/MCN/A73>) highlights significant results for medical and situational variables related to birth satisfaction.

## Discussion

We conducted a cross-sectional study of 747 postpartum women who gave birth in U.S. hospitals during the first 5 months of the COVID-19 pandemic to describe birth satisfaction during this unprecedented time. We found relationships between birth satisfaction and demographics, maternal health, and birth experience.

### Demographics

Demographic variables associated with birth satisfaction in our study were higher income, marriage, and white race. White and married women tended to have higher overall birth satisfaction on all scales except labor-related stress. Education and employment were not associated with overall birth satisfaction.

Our findings differ from Hinic (2017), which found no difference between BSS-R scores and participant demographic factors. Employment was unstable during the time of study, and

**TABLE 2. BIRTH SATISFACTION BY EMPLOYMENT, MARITAL STATUS, AND RACE**

Measure		N	Mean	SD	t-test
	<b>Employment</b>				
BSS-R	Unemployed	309	27.2	6.6	<b>t(745) = -2.16, p = .031</b>
	Employed	438	28.2	6.4	
LRS	Unemployed	309	9.7	3.3	t(745) = -0.99, p = .321
	Employed	438	9.9	3.5	
WPA	Unemployed	309	4.1	2.2	<b>t(745) = -3.55, p &lt; .001</b>
	Employed	438	4.7	2.1	
QOC	Unemployed	309	13.4	2.7	t(745) = -1.18, p = .239
	Employed	438	13.6	2.4	
	<b>Marital Status</b>	<b>N</b>	<b>Mean</b>	<b>SD</b>	<b>t-test</b>
BSS-R	Not married	135	26.2	6.7	<b>t(745) = -3.23, p = .001</b>
	Married	612	28.1	6.4	
LRS	Not married	135	9.4	3.4	t(745) = -1.69, p = .092
	Married	612	9.9	3.4	
WPA	Not married	135	4.1	2.2	<b>t(745) = -2.16, p = .031</b>
	Married	612	4.5	2.2	
QOC	Not married	135	12.7	2.9	<b>t(172) = -3.63, p &lt; .001</b>
	Married	612	13.7	2.3	
	<b>Race</b>	<b>N</b>	<b>Mean</b>	<b>SD</b>	<b>t-test</b>
BSS-R	White	641	28.0	6.4	<b>t(745) = 2.56, p = .011</b>
	Women of color	106	26.3	6.9	
LRS	White	641	9.9	3.4	t(745) = 1.47, p = .142
	Women of color	106	9.4	3.7	
WPA	White	641	4.5	2.2	<b>t(745) = 2.67, p = .008</b>
	Women of color	106	3.9	2.3	
QOC	White	641	13.6	2.4	<b>t(745) = 2.32, p = .021</b>
	Women of color	106	12.9	2.9	

Note. BSS-R = Birth Satisfaction Scale Revised; LRS = Labor Related Stress Subscale; WPA = Women's personal attributes subscale; QOC = Quality of care subscale.

**TABLE 3. BIRTH SATISFACTION BY BIRTH TYPE**

Measure						<i>p</i>		
Birth type		<i>N</i>	Mean	SD	F-Test	V vs. PC	V vs. UC	PC vs. UC
<b>BSS-R</b>	V	523	28.6	6.5	<b>F(2, 744) = 31.61,</b> <i>p</i> < .001	0.941	<.001	<.001
	PC	96	28.4	5.8				
	UC	128	23.8	5.7				
<b>LRS</b>	V	523	10.2	3.4	<b>F(2, 744) = 33.19,</b> <i>p</i> < .001	0.309	<.001	<.001
	PC	96	10.7	2.9				
	UC	128	7.7	2.9				
<b>WPA</b>	V	523	4.8	2.1	<b>F(2, 744) = 33.86,</b> <i>p</i> < .001	<b>0.008</b>	<.001	<b>0.002</b>
	PC	96	4.1	2.1				
	UC	128	3.2	2.0				
<b>QOC</b>	V	523	13.6	2.5	<b>F(2, 744) = 4.52,</b> <i>p</i> = .011	0.973	<b>0.008</b>	0.113
	PC	96	13.6	1.9				
	UC	128	12.9	2.8				

Note. V = vaginal birth; PC = planned cesarean birth; UC = unplanned cesarean birth; BSS-R = Birth Satisfaction Scale Revised; LRS = Labor Related Stress Subscale; WPA = Women's personal attributes subscale; QOC = Quality of care subscale.

though employment and education were not related to overall BSS-R, they were related to lower women's personal attributes scores. This may mean that education and employment improve inherent traits like confidence and preparedness, which may transfer to a more satisfying birth (Miron-Shatz & Konheim-Kalkstein, 2020).

Women of color had lower birth satisfaction in our study, similarly to Breman et al. (2021) and Janevic et al. (2021) who found that Black and Latina women had reduced birth satisfaction during the COVID-19 pandemic. These findings are consistent with Hamm et al. (2019) that previously reported racial disparities in birth satisfaction. In addition to the ongoing racial health disparities in maternal health, women of color were disproportionately affected by COVID-19 as well as tension occurring throughout the United States related to systemic racism during the study period (Jones, 2021; Woodworth et al., 2020).

**Maternal Health**

Maternal health complications can affect a woman's birth experience. Unlike in Janevic et al. (2021), COVID-19 positivity was not related to overall birth satisfaction in our study, although our sample of COVID-positive individuals was relatively small. This may indicate that though having the COVID-19 infection causes stress and affects other outcomes, the overall birth experience can still be preserved when a woman is ill.

Other maternal health factors that were negatively associated with birth satisfaction were hypertension, preeclampsia, hemorrhage, depression, and anxiety. Hypertension, pre-

eclampsia, and hemorrhage were not related to quality-of-care scores in our study which may indicate that care intensity increases when serious medical events occur, thus not affecting quality-of-care satisfaction scores. Women's self-identified depression or anxiety was associated with lower overall birth satisfaction and lower subscale scores. Previous research has shown relationships between depression and anxiety and lower birth satisfaction (Bell & Andersson, 2016).

**Birth Experience**

Having a birth partner present, perception of sufficient support during birth, and vaginal birth were associated with improved birth satisfaction. Birth experience variables negatively associated with birth satisfaction included unplanned cesarean birth, separation from infant, and NICU admission.

The average BSS-R total score was lowest among women who gave birth without a birth partner (M = 22.1, SD = 6.1) when compared with all other variables in our study. Women in our study who had no birth partner present or felt they had insufficient support had lower overall birth satisfaction and lower subscales relative to those who had a partner or felt supported. Support has been associated with birth satisfaction in previous work; however, policies that limited partners and other support due to the pandemic may have made this issue more widespread (Attanasio et al., 2014).

Women who were separated from their infant or had an infant admitted to the NICU had lower birth satisfaction and lower scores on all subscales. Previous literature

## CLINICAL IMPLICATIONS

- Having a birth partner present and the perception of having adequate birth support are critical for birth satisfaction. Birth satisfaction may be affected by COVID-19 pandemic-related policies that reduce support structures.
- Separating the mother and infant was more common during the early months of the pandemic and was associated with decreased birth satisfaction.
- Nurses should recognize that obstetric and neonatal complications during labor and birth may decrease birth satisfaction and use strategies to offer extra support to women facing these circumstances.
- There were racial disparities in birth satisfaction in our study, indicating that not all women receive the same birth experience in U.S. hospitals. Nurses should be mindful of providing the same high-quality experience for each individual woman. Further work to eliminate racism in maternity care and all aspects of health care is needed.

supports that immediate contact with the newborn is an important variable for birth satisfaction (Hinic, 2017; Kahalon et al., 2021; Martin & Fleming, 2011). Of note is that our study had a high number of infants admitted to the NICU (15.5%) relative to the most recent data on average NICU admission in 2019 (9.3%; Martin et al., 2021). Although maternal infant separation and NICU admission have been shown to affect birth satisfaction prior to our study, these may have been more common occurrences during the pandemic (Reingold et al., 2020).

Similar to previous research including Inversetti et al. (2021) who studied birthing women during the pandemic, our findings showed that women who had a vaginal birth had higher birth satisfaction on all subscales and overall, in contrast to women with an unplanned cesarean birth (Falk et al., 2019; Hamm et al., 2019; Kahalon et al., 2021; Karlström, 2017). Hamm et al. (2019) found that cesarean birth resulted in women being three times more likely to be unsatisfied than those who had a vaginal birth. Not all birth satisfaction studies have shown differences in birth satisfaction by birth modality, so it is possible that having a cesarean birth during the pandemic was more dissatisfying for women (Barbosa-Leiker et al., 2015; Hinic, 2017). Cesarean birth increases medical complexity and length of hospital stay which was a concern during the early months of the pandemic and may have affected women's experiences (Bornstein et al., 2020). Although women with a planned cesarean had lower BSS-R scores than women with a vaginal birth, they had slightly better labor-related stress scores. This is perhaps related to the controlled circumstances of a planned cesarean, which may not have been altered relative to prepandemic practices (e.g., all personnel mask in the operating room).

### Limitations and Future Research

This study was limited by the cross-sectional retrospective design, participant self-selection, social media recruitment, and lack of diversity in participants. Lack of

racial diversity limited the analyses. Providing the survey in English limited our sample to English-speaking participants. Due to the large sample size, we were more likely to find statistically significant differences between variables. Many of our results may have been unrelated to the pandemic. Future research should focus on prospective and longitudinal designs and use a sample more representative of the general population.

## Clinical Implications

Like nearly every other element of human life, birthing environments were affected by the COVID-19 pandemic. The COVID-19 pandemic changed the experience of birthing for women and made it challenging for nurses working in maternity care units. Even in pandemic conditions, labor support remains critical to birth satisfaction. Our findings support the negative impact of obstetric and neonatal complications on birth satisfaction, which may have been compounded by the difficulties of giving birth in a hospital during the pandemic.

Although our sample was not representatively diverse, our results showed racial disparities in birth satisfaction. This adds to the large body of research indicating that women of color are experiencing racial disparities in every facet of maternal health care. Women of color were disproportionately affected by COVID-19, exacerbating preexisting racial maternal health disparities. Further work needs to be done to end racism and promote an equal, high-quality birth experience for women of color, which will in turn promote birth satisfaction.

Pandemic-related maternity care should include the safe presence of birth partners and other support structures including doulas. Staffing ratios for nurses, midwives, and physicians should remain adequate even during a pandemic to ensure patients have access to the support and health care they desire or need. Although it was more common to separate infants from mothers early in the pandemic for potential symptoms of COVID-19, this was largely discontinued, and maternity care units should continue to advocate for mother infant togetherness when possible (Reingold et al., 2020).

Evidence-based initiatives to reduce cesarean birth, such as the Supporting Vaginal Birth Collaborative, should be implemented in hospitals and continue to be promoted throughout a pandemic (Rosenstein et al., 2021). Overall, best practices in maternal and infant care should continue during a pandemic with only minor modifications to reduce infection transmission. ❖

### Acknowledgment

This study was funded by the Sigma Theta Tau International Gamma Pi Chapter Sister Patricia Miller Award.

Kara Lemkau, BSN, RN, assisted with recruitment and database management during the study.

*Elizabeth Mollard, Assistant Professor, University of Nebraska Medical Center, College of Nursing – Lincoln Division, Lincoln, NE. Dr. Mollard can be reached via email at Elizabeth.Mollard@unmc.edu*

Kevin Kupzyk, Assistant Professor, University of Nebraska Medical Center, College of Nursing – Omaha Division, 985330 Nebraska Medical Center, Omaha, NE.

The authors declare no conflicts of interest.

Copyright © 2022 Wolters Kluwer Health, Inc. All rights reserved.

DOI:10.1097/NMC.0000000000000777

## References

- Attanasio, L. B., McPherson, M. E., & Kozhimannil, K. B. (2014). Positive childbirth experiences in U.S. hospitals: A mixed methods analysis. *Maternal and Child Health Journal, 18*(5), 1280–1290. <https://doi.org/10.1007/s10995-013-1363-1>
- Barbosa-Leiker, C., Fleming, S., Hollins Martin, C. J., & Martin, C. R. (2015). Psychometric properties of the Birth Satisfaction Scale-Revised (BSS-R) for US mothers. *Journal of Reproductive and Infant Psychology, 33*(5), 504–511. [doi.org/gcf9](https://doi.org/gcf9)
- Bell, A. F., & Andersson, E. (2016). The birth experience and women's postnatal depression: A systematic review. *Midwifery, 39*, 112–123. <https://doi.org/10.1016/j.midw.2016.04.014>
- Bianco, A., Buckley, A. B., Overbey, J., Smilen, S., Wagner, B., Dinglas, C., ... & Stone, J. (2020). Testing of patients and support persons for coronavirus disease 2019 (COVID-19) infection before scheduled deliveries. *Obstetrics & Gynecology, 136*(2), 283–287.
- Bornstein, E., Gulersen, M., Husk, G., Grunebaum, A., Blitz, M. J., Rafael, T. J., Rochelson, B. L., Schwartz, B., Nimaroff, M., & Chervenak, F. A. (2020). Early postpartum discharge during the COVID-19 pandemic. *Journal of Perinatal Medicine, 48*(9), 1008–1012. <https://doi.org/10.1515/jppm-2020-0337>
- Breman, R. B., Neerland, C., Bradley, D., Burgess, A., Barr, E., & Burcher, P. (2021). Giving birth during the COVID-19 pandemic, perspectives from a sample of the United States birthing persons during the first wave: March-June 2020. *Birth*, Epub ahead of print. Jun 11, 2021. <https://doi.org/10.1111/birt.12559>
- Burgess, A., Breman, R. B., Bradley, D., Dada, S., & Burcher, P. (2021). Pregnant women's reports of the impact of COVID-19 on pregnancy, prenatal care, and infant feeding plans. *MCN. The American Journal of Maternal Child Nursing, 46*(1), 21–29. <https://doi.org/10.1097/NMC.0000000000000673>
- Chabbert, M., Panagiotou, D., & Wendland, J. (2021). Predictive factors of women's subjective perception of childbirth experience: A systematic review of the literature. *Journal of Reproductive and Infant Psychology, 39*(1), 43–66. <https://doi.org/10.1080/02646838.2020.1748582>
- Davis-Floyd, R., Gutschow, K., & Schwartz, D. A. (2020). Pregnancy, birth and the COVID-19 Pandemic in the United States. *Medical Anthropology, 39*(5), 413–427. <https://doi.org/10.1080/10459740.2020.1761804>
- Del Río, R., Dip Pérez, E., Marín Gabriel, M. Á., & Group, N. C. R. (2021). Multi-centre study showed reduced compliance with the World Health Organization recommendations on exclusive breastfeeding during COVID-19. *Acta Paediatrica, 110*(3), 935–936. <https://doi.org/10.1111/apa.15642>
- Falk, M., Nelson, M., & Blomberg, M. (2019). The impact of obstetric interventions and complications on women's satisfaction with childbirth a population based cohort study including 16,000 women. *BMC Pregnancy and Childbirth, 19*(1), 494. <https://doi.org/10.1186/s12884-019-2633-8>
- Grimm, C. A. (2021). *Hospitals reported that the COVID-19 pandemic has significantly strained health care delivery: Results of a national pulse survey February 22–26, 2021*. (Report No. OEI-09-21-00140). US Department of Health and Human Services Office of Inspector General. <https://oig.hhs.gov/oei/reports/OEI-09-21-00140.pdf>
- Hamm, R. F., Srinivas, S. K., & Levine, L. D. (2019). Risk factors and racial disparities related to low maternal birth satisfaction with labor induction: A prospective, cohort study. *BMC Pregnancy and Childbirth, 19*(1), 530. <https://doi.org/10.1186/s12884-019-2658-z>
- Hessami, K., Romanelli, C., Chiurazzi, M., & Cozzolino, M. (2020). COVID-19 pandemic and maternal mental health: a systematic review and meta-analysis. *The Journal of Maternal-Fetal & Neonatal Medicine, 1–8*. <https://doi.org/10.1080/14767058.2020.1843155>
- Hinic, K. (2017). Understanding and promoting birth satisfaction in new mothers. *MCN. The American Journal of Maternal Child Nursing, 42*(4), 210–215. <https://doi.org/10.1097/NMC.0000000000000345>
- Inversetti, A., Fumagalli, S., Nespoli, A., Antolini, L., Mussi, S., Ferrari, D., & Locatelli, A. (2021). Childbirth experience and practice changing during COVID-19 pandemic: A cross-sectional study. *Nursing Open. https://doi.org/10.1002/nop.2.913*
- Janevic, T., Maru, S., Nowlin, S., McCarthy, K., Bergink, V., Stone, J., Dias, J., Wu, S., & Howell, E. A. (2021). Pandemic birthing: Childbirth satisfaction, perceived health care bias, and postpartum health during the COVID-19 Pandemic. *Maternal and Child Health Journal, 25*(6), 860–869. <https://doi.org/10.1007/s10995-021-03158-8>
- Jones, L. (2021). COVID-19 and race: Double emergencies for women of color. *Cities & Health, 1–4*. <https://doi.org/10.1080/23748834.2021.1930982>
- Kahalon, R., Preis, H., & Benyamini, Y. (2021). Who benefits most from skin-to-skin mother-infant contact after birth? Survey findings on skin-to-skin and birth satisfaction by mode of birth. *Midwifery, 92*, 102862. <https://doi.org/10.1016/j.midw.2020.102862>
- Karlström, A. (2017). Women's self-reported experience of unplanned caesarean section: Results of a Swedish study. *Midwifery, 50*, 253–258. <https://doi.org/10.1016/j.midw.2017.04.016>
- Martin, C. H., & Fleming, V. (2011). The birth satisfaction scale. *International Journal of Health Care Quality Assurance, 24*(2), 124–135. <https://doi.org/10.1108/09526861111105086>
- Martin, J. A., Hamilton, B. E., Osterman, M., & Driscoll, A. K. (2019). Births: Final Data for 2018. National vital statistics reports : from the Centers for Disease Control and Prevention, National Center for Health Statistics. *National Vital Statistics System, 68*(13), 1–47.
- Martin, J. A., Hamilton, B. E., Osterman, M. J. K., & Driscoll, A. K. (2021). Births: Final data for 2019. *National Vital Statistics Reports, 70*(2), 1–51. Hyattsville, MD: National Center for Health Statistics. <https://doi.org/10.15620/cdc:100472>. <https://www.cdc.gov/nchs/data/nvsr/nvsr70/nvsr70-02-508.pdf>
- Martin, C. R., Hollins Martin, C. J., Burduli, E., Barbosa-Leiker, C., Donovan-Batson, C., & Fleming, S. E. (2018). The Birth Satisfaction Scale-Revised (BSS-R): Should the subscale scores or the total score be used? *Journal of Reproductive and Infant Psychology, 36*(5), 530–535. <https://doi.org/10.1080/02646838.2018.1490498>
- Martin, C. J. H., & Martin, C. R. (2014). Development and psychometric properties of the Birth Satisfaction Scale-Revised (BSS-R). *Midwifery, 30*(6), 610–619. <https://doi.org/10.1016/j.midw.2013.10.006>
- Martin, C. J. H., Martinez, L. J., & Martin, C. R. (2020). Measuring women's experiences of childbirth using the Birth Satisfaction Scale-Revised (BSS-R). *British Journal of Midwifery, 28*(5), 306–312. <https://doi.org/10.12968/bjom.2020.28.5.306>
- Mayopoulos, G. A., Ein-Dor, T., Dishy, G. A., Nandru, R., Chan, S. J., Hanley, L. E., Kaimal, A. J., & Dekel, S. (2021). COVID-19 is associated with traumatic childbirth and subsequent mother-infant bonding problems. *Journal of Affective Disorders, 282*, 122–125. <https://doi.org/10.1016/j.jad.2020.12.101>
- Miron-Shatz, T., & Konheim-Kalkstein, Y. L. (2020). Preparedness and support, not personality, predict satisfaction in unplanned caesarean births. *Journal of Obstetrics and Gynaecology, 40*(2), 171–175. <https://doi.org/10.1080/01443615.2019.1606174>
- Mollard, E., & Wittmaack, A. (2021). Experiences of women who gave birth in US hospitals during the COVID-19 Pandemic. *Journal of Patient Experience, 8*, 2374373520981492. <https://doi.org/10.1177/2374373520981492>
- Nijagal, M. A., Wissig, S., Stowell, C., Olson, E., Amer-Wahlin, I., Bonsel, G., Brooks, A., Coleman, M., Karalasingam, S. D., Duffy, J. M. N., Flanagan, T., Gebhardt, S., Greene, M. E., Groenendaal, F., Jegannathan, J. R. R., Kowaliv, T., Lamain-de-Ruiter, M., Main, E., Owens, M., ..., Franx, A. (2018). Standardized outcome measures for pregnancy and childbirth, an ICHOM proposal. *BMC Health Services Research, 18*(1), 953. <https://doi.org/10.1186/s12913-018-3732-3>
- Peña, J. A., Bianco, A. T., Simpson, L. L., Bernstein, P. S., Roman, A. S., Goffman, D., Schweizer, W. E., Overbey, J., & Stone, J. L. (2020). A survey of labor and delivery practices in New York City during the COVID-19 pandemic. *American Journal of Perinatology, 37*(10), 975–981. <https://doi.org/10.1055/s-0040-1713120>
- Podovei, M., Bernstein, K., George, R., Habib, A., Kacmar, R., Bateman, B., & Landau, R. (2020). Interim considerations for obstetric anesthesia care related to COVID19. Available at: <https://soap.org/education/provider-education/expert-summaries/interim-considerations-for-obstetric-anesthesia-care-related-to-covid19/>
- Reingold, R. B., Barbosa, I., & Mishori, R. (2020). Respectful maternity care in the context of COVID-19: A human rights perspective. *International Journal of Gynecology & Obstetrics, 151*(3), 319–321. <https://doi.org/10.1002/ijgo.13376>
- Rosenstein, M. G., Chang, S. C., Sakowski, C., Markow, C., Teleki, S., Lang, L., Logan, J., Cape, V., & Main, E. K. (2021). Hospital quality improvement interventions, statewide policy initiatives, and rates of cesarean delivery for nulliparous, term, singleton, vertex births in California. *JAMA, 325*(16), 1631–1639. <https://doi.org/10.1001/jama.2021.3816>
- Woodworth, K. R., Olsen, E. O. M., Neelam, V., Lewis, E. L., Galang, R. R., Oduyebo, T., ... & Team, I. L. O. (2020). Birth and infant outcomes following laboratory-confirmed SARS-CoV-2 infection in pregnancy—SET-NET, 16 jurisdictions, March 29–October 14, 2020. *Morbidity and Mortality Weekly Report, 69*(44), 1635.